REMARKS

Claims 1-53 are pending.

Claims 1-18, 22-46 and 50-53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over by Herz (U.S. Patent No. 5,754,938) in view of Gerace (U.S. Patent No. 5,848,396). This rejection is respectfully traversed.

Claim 1 recites "modifying said cluster structure by a user according to user knowledge and preferences." The Examiner admits that Herz fails to teach or suggest this feature but asserts that Gerace discloses "modifying said cluster structure (category) by a user according to user knowledge and preferences" (citing col. 11, lines 25-45). The Examiner considers that the categories disclosed in Gerace correspond to the claimed clusters. Applicant respectfully disagrees.

According to the claimed invention, "cluster structure" refers to the number of clusters, the cluster center representation (cluster template vectors) of the clusters, and the assignment of the documents or data items to the individual clusters. As a user modifies the cluster structure, the cluster assignment of each of the individual documents and the cluster centers may change. For instance, after a user creates a new cluster, the cluster may attract documents from other clusters. As a further example, splitting a cluster results in two smaller clusters and each has a new cluster center. Further, the present specification specifically discusses the differences between categories and clusters in the Background of the Invention section (see pg. 1, line 12 to pg. 2, line 11). In addition, clustering and categorization are terms which are well known to those of ordinary skill in the art.

Clusters refer to grouping according to an algorithm automatically based on data distribution. Categories are groupings determined/predefined by users. Cluster structure is a general term commonly used by researchers in the field to refer to the properties of the clusters

discovered by a clustering algorithm. A cluster structure typically specifies the number of clusters and the distribution of the cluster centers or templates.

Clusters, as described in the current application, are fluid in the sense that they are first automatically generated by a clustering algorithm and subsequently can be further modified by a user. Categories, as described in Gerace, are fixed as there is no provision for a user to modify the number of categories and their definition in an interactive manner. It is apparent, therefore, that the claimed cluster structure is not equivalent to the categories discussed in Gerace.

Gerace, on the other hand, is related to customizing the content and format of data within individual categories. Depending on a user's request, the system provides structured data, preformatted data packages, and/or value-added analysis of the data. However, the customization discussed in Gerace does not change the category structure and or the assignment of the data from one category to another category. Accordingly, the features of claim 1 are not taught or suggested by Herz, Gerace, or a combination thereof. Claim 27 is likewise allowable.

Claim 3 recites "said modifying comprises creating at least one new information cluster defined by the user." The Examiner asserts that Gerace shows this feature and cites to col. 19, lines 22-25. Gerace states "when the sponsor-user of the example decides to create a second package, the sponsor-user clicks on a 'request an ad package' option and completes a form detailing the package (number of hits/clicks throughs requested, profiling, etc." Although the term "create" is mentioned in Gerace, the claim recites that at least one new information cluster defined by the user is created, and the invention of Gerace actually is creating an ad package by a sponser-user. This is not the same as what is being claimed, and no new clusters are created according to the disclosure of Gerace. Thus, the features of claim 3 are not taught or suggested by Herz, Gerace, or a combination thereof. Claim 29 is likewise allowable.

Claim 4 recites "said modifying further comprises labeling each information cluster by the user using a user-defined symbol." The Examiner cites to Gerace, col. 6, lines 32-39, as showing this feature. However, Gerace states "[D]isplay preferences include orientation, color

scheme, screen quadrant/location and the like, indicated with respect to the category of information." This disclosure relates to customizing the look and feel of the information within the categories. This disclosure does not relate to labeling (assigning meanings to) the clusters according to a user's preferences and requirements. As mentioned above, the categories as mentioned in Gerace are also not the same as the clusters in the current invention, since categories are fixed and clusters are not. Thus, the features of claim 4 are not taught or suggested by Herz, Gerace, or a combination thereof. Claims 8, 30 and 35 are likewise allowable.

Claim 5 recites "said modifying further comprises merging of at least two clusters chosen by the user." The Examiner asserts that this features is shown in Herz at col. 7, lines 35-39. However, this disclosure relates to a standard bottom-up hierarchical clustering algorithm, which involves merging of clusters during the automatic clustering process. According to this method, the user has no control over which clusters to merge. The merging of clusters according to claim 5 is part of the personalization capabilities in which a user can explicitly choose to merge clusters that he/she thinks should be grouped together. Thus, the features of claim 5 are not taught or suggested by Herz, Gerace, or a combination thereof. Claims 9, 31, and 36 are likewise allowable.

Claim 6 recites "said modifying further comprises splitting at least one cluster chosen by the user." The Examiner asserts that Herz discloses this feature at col. 24, lines 12-18. However, this disclosure also relates to a standard top-down hierarchical clustering algorithm, which involves splitting of clusters during the automatic clustering process. Thus, the user has no control over which cluster to split or how to split. The split cluster function of the claims is part of the personalization capabilities, in which a user can explicitly choose to split a cluster containing diverse content by specifying how the cluster should be split. Thus, the features of claim 6 are not taught or suggested by Herz, Gerace, or a combination thereof. Claims 10, 32, and 37 are likewise allowable.

Claim 7 recites "said modifying further comprises storing said cluster structure in a knowledge base." The Examiner asserts that Herz discloses this feature at col. 32, lines 34-44. However, this disclosure relates to storing user-specific information that includes user profiles,

target profile interest summaries, access control instructions, and return addresses. Herz does not actually disclose storing a cluster structure in a knowledge base. The nature and purpose of the information stored in Herz is entirely different than that of claim 7. Thus, the features of claim 7 are not taught or suggested by Herz, Gerace, or a combination there. Claims 11, 33, and 38 are likewise allowable.

Claim 25 recites "retrieving said cluster structure" and "analyzing new clusters with reference to said retrieved cluster structure defined according to the user's knowledge and preferences." The Examiner asserts that Gerace discloses these features at col. 19, lines 33-40. In addition to the differences between the claimed cluster structure and the categories disclose in Gerace, the portion of Gerace referred to by the Examiner in no way relates to the claimed feature. Thus, the features of claim 25 are not taught or suggested by Herz, Gerace, or a combination there. Claims 50 and 52 are likewise allowable.

The remaining claims are allowable at least for the reasons set forth above. Applicant therefore requests that this rejection be withdrawn.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 455392001200.

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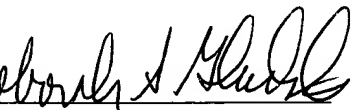
Respectfully submitted,

By 

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